

## **REMARKS / DISCUSSION OF ISSUES**

In response to the Office Action dated April 29, 2008, Applicant respectfully requests reconsideration. All of the issues raised in the Office Action have been carefully considered and are addressed herein. The application as presented is believed to be in allowable condition. Claims 1-7 were previously pending in this application. In this paper, claims 1-2 and 4-7 have been amended, claims 8-16 have been added, and claim 3 has been canceled. As a result, claims 1-2 and 4-16 are pending for examination with claims 1 and 8 being independent claims. No new matter has been added.

### **I. Claim Rejections under 35 U.S.C. §§ 102 and 103**

Claims 1-2 and 5-7 were rejected under 35 U.S.C. §102(e) as allegedly being anticipated by U.S. Patent Application Publication No. 2005/0040392 A1 (“Wu”). Claims 3 and 4 were rejected under 35 U.S.C. §103(a) as allegedly being obvious over Wu. While not acceding to the propriety of the rejection of claim 1, Applicants have amended claim 1 herein to include limitations of previously-pending dependent claim 3. Accordingly, the discussion below addresses the obviousness rejection of claim 3, which Applicants respectfully traverse.

Independent claim 1, as amended herein, is directed to a light-emitting device. The light-emitting device comprises at least a substrate, an anode, a first hole transport layer, a light-emitting layer, and a cathode. The light-emitting device further comprises a first hole blocking layer is arranged between the first hole transport layer and the light-emitting layer, and a layer structure comprising at least one further hole transport layer and at least one further hole blocking layer is arranged between the first hole transport layer and the anode.

The Office Action concedes that Wu does not teach a light-emitting device having the layer structure comprising at least one further hole transport layer and at least one further hole blocking layer, as now recited in claim 1, and does not present any additional evidence to cure this deficiency. Instead, the Office Action makes the vague and conclusory statement that “the teachings of the applied art (Wu) perform the same functions in essentially the same manner as the claimed device” and thus “these different variances ... are considered to be obvious by design alternative” (Office Action, page 4, bottom) (emphasis added).

Applicants note that nowhere in the MPEP is “design alternative” described as a viable basis for rejecting a claim as obvious under 35 U.S.C. §103. Indeed, MPEP §2143 describes several exemplary rationales for rejecting a claim under the statute, and “obvious design alternative” is not one of them. In making the rejection, the Office Action does not cite to any other authority that would support its argument. Therefore, Applicants respectfully assert that the Office Action has failed to meet its burden of establishing a *prima facie* case of obviousness, and request that these rejections be withdrawn.

While MPEP §2142 explicitly sets forth that the Applicants are not required to respond with evidence or arguments if the Office Action fails to present a *prima facie* case of obviousness, Applicants take the opportunity herein to clarify the record and correct errors in the assertions made in the Office Action.

As mentioned above, the Office Action appears to base its obviousness rationale on the unsupported conclusion that “the [claimed layer structure] is not shown to solve any stated problem or yield any unexpected results that is not within the scope of the teachings applied” (Office Action, page 4, middle). Applicants note that, in direct contrast to these assertions, the specification is explicit in reciting functions performed by the layer structure of claim 1 that are not disclosed or suggested by Wu: “An advantageous feature of this embodiment”—i.e., embodiments having at least one further hole blocking layer and one further hole transport layer, such as the embodiments covered by claim 1—“is that the concentration of holes which reach the light-emitting layer 5 can be adapted precisely to the concentration of electrons which pass into the light-emitting layer 5” (Applicants’ specification, page 5, lines 14-16). This embodiment is directed to solving a problem that Wu does not recognize or address: increasing the quantum efficiency of light-emitting units through reducing an amount of holes present in a light-emitting layer (Page 1, line 26, to page 2, line 18). Wu says nothing regarding quantum efficiency of light-emitting layers, nor does Wu disclose or suggest any technique for reducing the number of holes which are permitted to flow to a light-emitting layer to increase the efficiency thereof.

Accordingly, the Office Action is incorrect in asserting that “the teachings of the applied art perform the same functions in essentially the same manner as the claimed device” and its rejection cannot stand. For at least these reasons, Applicants respectfully assert that the rejection of amended claim 1 as allegedly being obvious over Wu is improper and should be withdrawn. Claims 2 and 4-7 depend from claim 1 and are allowable for at least the same reasons.

## **II. New Claims**

New claims 8-16, including independent claim 8, have been added to further define Applicants’ contribution to the art. Independent claim 8 recites, *inter alia*, “wherein the highest occupied molecular orbital (HOMO) energy level of the hole blocking layer is lower than the HOMO energy level of the hole transport layer.” Wu does not teach or suggest anything regarding energy levels of molecular orbitals of its layers, and accordingly does not teach or suggest at least this limitation of the claims. The newly-added claims thus distinguish Wu for at least this reason.

Applicants respectfully remind the Examiner that, in accordance with MPEP §2112(IV), if an inherency rejection is to be made regarding the newly-added claims and the teachings of Wu—a rejection that Applicants believe would be untenable—“the extrinsic evidence must make clear that the missing descriptive matter is *necessarily present* in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, *may not be established by probabilities or possibilities*. The mere fact that a certain thing *may result* from a given set of circumstances *is not sufficient*” (MPEP §2112(IV)) (emphasis added). In accordance with this section, if the Examiner is inclined to issue an inherency rejection, then the Examiner is respectfully requested to provide appropriate extrinsic evidence to support such a rejection.

***III. General Comments on Rejections of Dependent Claims***

Since each of the dependent claims depends from a base claim that is believed to be in condition for allowance, Applicants believe that it is unnecessary at this time to argue the allowability of each of the dependent claims individually. Applicants do not, however, necessarily concur with the interpretation of any dependent claim as set forth in the Office Action, nor do Applicants concur that the basis for the rejection of any dependent claim is proper. Therefore, Applicants reserve the right to specifically address the patentability of the dependent claims in the future, if deemed necessary.

### **CONCLUSION**

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue, or comment set forth in the Office Action does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Furthermore, nothing in this paper should be construed as intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify any concession of unpatentability of the claim prior to its amendment. In view of the foregoing amendments and remarks, this application should now be in condition for allowance. A notice to this effect is respectfully requested. If the Examiner believes, after this amendment, that the application is not in condition for allowance, the Examiner is requested to call the Applicants' representative at the telephone number indicated below to discuss any outstanding issues relating to the allowability of the application. If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicants hereby request any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, please charge any deficiency to Deposit Account No. 14/1270, under Docket No. DE030368US1.

Respectfully submitted,

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